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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/050,185 | 01/18/2002 | Indira S. Pottebaum | 6034 | 7587 |

7590 05/18/2004

E. I. du Pont de Nemours & Co.
Legal/Patent Records Center
Barley Mill Plaza 25/1128
Wilmington, DE 19805

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| EXAMINER |
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LEE, SIN J

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| ART UNIT | PAPER NUMBER |
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1752

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

Office Action Summary

Application No.

10/050,185

Applicant(s)

POTTEBAUM ET AL.

Examiner

Sin J. Lee

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is **FINAL**. ✓ 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 10-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-9 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☒ Claim(s) 1-22 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>04192002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Group I, claims 1-9 on March 25, 2004 is acknowledged. Claims 10-22 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a nonelected invention.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, and 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu et al (6,555,288 B1).

Xu teaches (col.3, lines 45-53) a photopolymerizable composition including at least one photoinitiator and at least one photopolymerizable monomer, oligomer, or polymer having at least one photopolymerizable group and a perfluorinated substituent. As one of the preferred examples for the photopolymerizable monomer, Xu teaches (see col.37, Example L) the following compound:



, a fluorinated diacrylate, which is made by reacting a fluorinated tetraethylene glycol ($\text{HOCH}_2\text{CF}_2\text{O}(\text{CF}_2\text{CF}_2\text{O})_2\text{CF}_2\text{CH}_2\text{OH}$) and acryloyl chloride in the presence of triethyl amine, and the compound has the molecular weight of 518. Also, this monomer satisfies Xu's generic formula (III) (see col.16, lines 63-67, col.17, lines 1-43), and Xu

furthermore teaches (col.29, lines 30-32) that is possible to blend the monomer satisfying generic formula (III) with other monomers such as the non-fluorinated compounds described in col.16, lines 1-20. Based on this teaching, it would have been obvious to one of ordinary skill in the art to blend Xu's monomer of his Example L with a non-fluorinated compound such as *trimethylolpropane triacrylate* (which is included as one of the examples for the non-fluorinated compound) with a reasonable expectation of obtaining optical devices showing good long term and short term stability, good flexibility, and reduced stress or crack induced optical scattering loss because the prior art clearly teaches that the monomer satisfying generic formula (III) can be blended with other monomers such as the non-fluorinated compounds described in col.16, lines 1-20. The trimethylolpropane triacrylate is the present non-fluorinated acrylate soluble in the fluorinated acrylate (see pg.10, line 7 of present specification) and having 3 acrylate groups per molecule. Xu also teaches examples for his photoinitiator in col.20, lines 51-67. It would have been obvious to one of ordinary skill in the art to use benzophenone (which is included as one of the taught examples) as Xu's photoinitiator with a reasonable expectation of obtaining optical devices showing good long term and short term stability, good flexibility, and reduced stress or crack induced optical scattering loss. Benzophenone is the present photoinitiator soluble in the fluorinated acrylate (see pg.10, line 18 of present specification). Therefore, the prior art teaches present inventions of claims 1, 2 (present n being 2), 4, and 5.

With respect to present claims 6 and 7, although Xu uses triethyl amine instead of the N,N-diisopropylethylamine, since Xu teaches the present fluorinated acrylate of

claim 1, Xu still teaches the present inventions of claims 6 and 7 because present claims 6 and 7 are product-by-process claims. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claims is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698 227 USPQ 964, 966 (Fed. Cir. 1985).

Xu teaches (col.23, lines 13-18) that his photosensitive composition can contain other additives such as antioxidants, photostabilizers, and contrast enhancers.

Therefore, Xu teaches present invention of claim 8.

Since Xu teaches exposing his photopolymerizable composition to actinic radiation (see col.3, lines 53-58), Xu teaches present polymer coating of claim 9.

Allowable Subject Matter

4. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Xu does not teach or suggest present fluorinated (meth)acrylate prepared from the ethoxylated fluoropolymer of the formula shown in present claim 3.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is 571-272-1333.

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The examiner can normally be reached on Monday-Friday from 9:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff, can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. J. Lee

S. Lee
May 15, 2004

Sin J. Lee
Sin J. Lee
Patent Examiner
Technology Center
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